

UNITED STATES DISTRICT COURT  
SOUTHERN DISTRICT OF TEXAS  
HOUSTON DIVISION

BAKER HUGHES INCORPORATED, <i>et</i>	§	
<i>al</i> ,	§	
	§	
Plaintiffs,	§	
VS.	§	CIVIL ACTION NO. H-09-1885
	§	
NALCO COMPANY,	§	
	§	
Defendant.	§	

**MEMORANDUM OPINION AND ORDER**  
**FOR INJUNCTIVE RELIEF**

**I. INTRODUCTION**

Before the Court is the plaintiff, Baker Hughes Incorporated's<sup>1</sup>, complaint and application for a preliminary injunction (Inst. #1) and the defendant Nalco Company's (Inst. # 18) response to Baker Hughes' application. Also before the Court are the parties' response, replies, memoranda and the testimony of witnesses. The Court, taking all matters under advisement, determines that Baker Hughes' application for a preliminary injunction should be granted.

**II. FACTUAL BACKGROUND**

On or about March 3, 2009, the Patent and Trademark Office ("PTO") issued patent numbers 7,497,943 ('943 patent) to its inventors, Nguyen, Kremer and Weers. In turn, they assigned the patent to Baker Hughes. The inventors boast that metals and/or amines can be removed or transferred from a hydrocarbon (crude oil) during the desalting process by using a composition that contains water-soluble hydroxyacids. The invention

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<sup>1</sup> While the record shows that Baker Hughes, Incorporated and Baker Petrolite Corporation are plaintiffs in the case, Baker Hughes alone seeks injunctive relief.

teaches that the "water soluble hydroxyacid may be glycolic acid, gluconic acid, C<sub>2</sub>-C<sub>4</sub> alpha-hydroxyacids, poly-hydroxy carboxylic acids, thioglycolic acid, chloroacetic acid, polymeric forms of the above acids, poly-glycolic esters, glycolate ethers and ammonium salt and alkali metal salts of these hydroxyacids, and mixtures thereof."<sup>2</sup>

In 2002, Exxon-Mobil and Chevron, in particular, sought a process that would permit them to refine a crude oil that was being collected from the Doba Field in Chad. In response, both Baker Hughes and Nalco, and perhaps others, set out to develop a process or method by which high levels of calcium and metals might be removed from these crudes. By 2007, Baker Hughes reached a point in its testing process where it was successfully removing calcium and metals from Doba crude without side effects. In 2009, Baker Hughes successfully demonstrated its method in the United States at the Synoco Plant in Philadelphia, Pennsylvania. Nalco, who had a contract for other services with Synoco successfully demonstrated its calcium and metal removal method or process in April of 2009, after Baker Hughes' successful demonstration and after Baker Hughes' '943 patent had issued in March of 2009.

### **III. CONTENTIONS OF THE PARTIES**

#### *A. Baker Hughes' Contentions*

Baker Hughes contends that it owns all "rights, title and interest in the '943 patent titled: "Additives to Enhance Metal and Amine Removal in Refining Desalting Process." It further contends that the '943 patent is valid and enforceable and that Nalco is currently infringing and/or contributing to its infringement at the Synoco Plant in Philadelphia. Baker Hughes asserts that only after it successfully demonstrated its process at Synoco was Nalco able to successfully remove calcium and metals from the crude oil at Synoco.

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<sup>2</sup> See Claim 1 of '943 patent set forth herein.

Nalco's success, according to Baker Hughes, is a result of Nalco copying the Baker Hughes process. According to Baker Hughes, after it successfully ran its process, Nalco obtained a "Safety Data Sheet" that revealed the various acids that Baker Hughes had used in its process. At the time, Baker Hughes contends, Nalco had other contractual relationships with Synoco and, thereby, had access to the desalting process at the plant. *See* [Plaintiff's Exhibit 9, Baker Hughes-Analytical Services Report, (May 18, 2009)]. Concerning its allegation that Nalco has not successfully removed calcium and metals from Doba crude, Baker Hughes points to the fact up to April or May of 2009 Nalco had failed. As well, Baker Hughes points out, Nalco never used malic acid or the C<sub>2</sub>-C<sub>4</sub> alpha-hydroxy acids, but instead had relied unsuccessfully on maleic acid. *See* [Plaintiff's Exhibit 8, Nalco Material Data Sheet, (Aug. 28, 2006)]. Therefore, Baker Hughes seeks an injunction enjoining Nalco from performing or soliciting the use of the Baker Hughes process, or aiding and abetting the use of its patented process.

*B. Nalco's Contentions*

Nalco contends that Baker Hughes' application for a preliminary injunction should be denied. First, Nalco argues that Baker Hughes cannot satisfy the requirements for the issuance for an injunction. In this regard, Nalco argues that Baker Hughes cannot show a likelihood of success on the merits with respect to validity, enforceability and infringement. Nalco argues that the '943 patent language "consisting" of is restrictive and, therefore, fails to include other additional steps; for example, the addition of a corrosion inhibitor in the process. Nalco's process includes a corrosion inhibitor step, an additional step it argues, and, therefore by adding this step Nalco does not infringe the '943 patent.

Second, Nalco contends that its process does not include "crude oil" as required by the '943 patent. In this regard, Nalco argues the '943 patent calls for a "pure crude oil" *i.e.*, devoid of all diluents or solvents. Nalco modifies its crude oil "using conventional desalting techniques *i.e.*, adding a demulsifier to the cold crude oil." Hence, Nalco claims that it does not add a "wash water" to the crude to create an emulsion as called for in the '943 patent.

Third, Nalco contends that a substantial fact question exists as to the validity of claims 1 and 17 based on the fact that: (a) claims 1 and 17 are anticipated by the Reynolds '463 patent (U.S. 7,399,403); (b) claims 1 and 17 are obvious in light of Hickock and/or Strong (U.S. Patent Nos. 2,767,123 and 3,449, 243, respectively); (c) claims 1 and 17 are obvious in the view of Hickock and/or Naeger (the Hickock '123 patent and U.S. Patent No. 4,992,210); and, claims 1 and 17 are obvious in light of the Reynolds '463 patent.

Finally, Nalco asserts that Baker Hughes cannot demonstrate that it will suffer irreparable harm. In this regard, Nalco argues that there is no evidence of: (a) lost sales; alternatively, that any loss would be immeasurable; (b) price erosion due to the Nalco process; and (c) loss of goodwill by Baker Hughes. To round out its argument against the issuance of an injunction, Nalco asserts that the balance of hardships favors Nalco, and that the public interest does not favor the issuance of an injunction because the '943 patent is invalid.

#### **IV. STATEMENT OF AUTHORITIES**

The Supreme Court has held that equitable injunctive relief is available to a party in patent infringement cases to prevent violation of any right secured by a patent. *See*

*eBay Inc. v. Merc-Exchange, LLC*, 126 S.Ct. 1837, 1839 (2006). The Patent Act provides that "[t]he several courts having jurisdiction of cases under this title may grant injunctions in accordance with the principles of equity to prevent violation of any right secured by [a] patent . . . . See 35 U.S.C. § 283. The form and scope of an injunction is governed by Federal Rule of Civil Procedure 65(d). It provides in part that:

[e]very order granting an injunction and every restraining order shall set forth the reasons for its issuance; shall be specific in terms; shall describe in reasonable detail, and not by reference to the complaint or other document, the act or acts sought to be restrained; . . .

*Id.* A plaintiff seeking an injunction must satisfy a four-factor test by demonstrating that: (1) it has or will suffer an irreparable injury; (2) remedies available at law such as monetary damages, are inadequate to compensate for that injury; (3) considering the balance of hardships between the plaintiff and defendant, a remedy in equity is warranted; and, (4) the public interest would not be disserved by the injunction. See *eBay, Inc.*, 126 S.Ct. at 1839. In rendering the *eBay* decision, the Supreme Court struck down the Federal Circuit's longstanding rule that exceptional circumstance must exist before an injunction will issue. *Id.* at 1839 (overturning *Monsanto Co. v. Scruggs*, 439 F.3d 1328 (Fed. Cir. 2006). Hence, the decision to grant or deny an injunction is a matter within the discretion of the court. *Id.*; see also *Sanofi-Synthelabo v. Apotex, Inc.*, 470 F.3d 1368, 1374 (Fed. Cir. 2006).

## V. ANALYSIS AND FINDINGS OF FACTS

A preliminary injunction should be granted, according to Baker Hughes because: (a) there is a reasonable likelihood that it will succeed on the merits; (b) it will and is suffering irreparable injury; (c) the balance of the hardships weigh in favor of an injunction; and, (d) the public interest will not be disserved by the issuance of an injunction. *See* Fed. R. Civ. Pro., Rule 65(d); *see also* *Winter v. Natural Res. Def. Council, Inc.*, 129 S.Ct. 365, 374 (2009). Baker Hughes contends that its '943 patent is valid and enforceable and that Nalco is infringing or contributing to it. Nalco argues that an injunction is unwarranted because no contract for the use of the Baker Hughes or Nalco methods is in effect.

The '943 patent describes and claims a method for removing metals and amines, including calcium, from crude oil in a refinery desalting processes. Claim 1 of the '943 patent claims the following method:

A method of transferring metals and/or amines from a hydrocarbon phase to a water phase in a refinery desalting process consisting of:

adding to a wash water, an effective amount of a composition to transfer metals and/or amines from a hydrocarbon phase to a water phase comprising at least one water-soluble hydroxyacid selected from the group consisting of glycolic acid, gluconic acid, C2-C4 alpha-hydroxy acids, malic acid, lactic acid, poly-hydroxy carboxylic acids, thioglycolic acid, chloroacetic acid, polymeric forms of the above hydroxyacids, polyglycolic esters, glycolate ethers, and ammonium salt and alkali metal salts of these hydroxyacids, and mixtures thereof;

lowering the pH of the wash water to 6 or below, before, during and/or after adding the composition;

adding the wash water to crude oil to create an emulsion;  
and

resolving the emulsion into hydrocarbon and aqueous phases using electrostatic coalescence, where at least a portion of the metals and/or amines are transferred to the aqueous phase;

Claim 17 of the '943 patent claims the following method:

The method of claim 1 where the composition additionally comprises at least one additional component selected from the group consisting of water or alcohol solvent, a corrosion inhibitor, a demulsifier, a scale inhibitor, metal chelants, wetting agents and mixtures thereof;

A. *Irreparable Injury*

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Baker Hughes asserts that the Court should enjoin Nalco because it is infringing at least claims 1 and 17 of Baker Hughes' '943 patent. Unless Nalco is enjoined, Baker Hughes will be "irreparably harmed, its pricing and market share for the patented method will be eroded, and Baker Hughes' good will and reputation will be diminished. As well, it is in the public interest to enforce patents to encourage others to invest and utilize the patent system. Baker Hughes asserts that it presents itself in the petroleum market place as the "problem solver," that its "brand -- best crude problem solver" is based in part on the fact that it does not generally license its patents. Hence, it maintains control and the integrity of its patented methods and processes. Finally, Baker Hughes argues that the monetary loss cannot be determined because the exclusive sale of its patented services often generates "pull through sales" that are incalculable.

Nalco asserts that since no contract has been granted to either itself or Baker Hughes at the Synoco Plant for the method or process that Baker Hughes claims.

Therefore, no damages have been or can be established or sustained by Baker Hughes. However, in the event Nalco is awarded the Synoco Plant contract, the damages are quantifiable because they will occur in the future. Therefore, Baker Hughes will suffer no damages that it cannot recover in the event it ultimately prevails on its infringement claims.

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Although Nalco argues that it is not practicing the '943 patent in that it has included an additional step in the process or method, that argument is disingenuous. The '943 patent does not claim to invent the refinery desalting process, instead, it claims to utilize it. Hence, the argument, for example, that an additional step has been added to its transfer method, *i.e.*, a corrosion inhibitor, fails to distinguish the Nalco method from the Baker Hughes method. Nalco, during its testimonial evidence admitted that adding a corrosion inhibitor to the method adds nothing to chemical equation for transferring metals and/or amines from the crude. Similarly, Nalco's claim that the '943 patent adds wash water to its composition, which Nalco claims is contrary to its method, is also fallacious. The Nalco process adds a demulsifier to the crude oil, adds a corrosion inhibitor into the wash water and, during the desalting process, heats the crude oil/demulsifier. These steps are not original, they are revealed in the standard desalting process. And, there is no scientific data proffered by Nalco suggesting that heating the crude oil/demulsifier prior to mixing it in the wash water serves any measurable or scientific purpose in the chemistry of the method. Hence, the Court finds that Nalco's use of the standard desalting process, as does Baker Hughes, neither adds to nor detracts from the method for transferring metals and/or amines from crude.



*B. The '943 Patent Validity (Anticipated/Obvious)*

Next, Nalco argues that the prosecution history of the '943 patent reveals that it is anticipated by the Reynolds '463 patent, or is obvious in light of the publication, "Petroleum Refining" and patents such as the Hickok and/or Strong, and Strong and Hickok and/or Naeger. While Baker Hughes' '943 patent discloses the use of a conventional crude oil desalting process and malic and lactic acids that are also referenced in the Reynolds '463 patent, the Reynolds '463 patent teaches away from the Baker Hughes' method. The Reynolds '463 teaches that emulsions are to be avoided because they tend to interfere with an effective separation. Nor is there disclosed in the Reynolds '463 patent the formulation of an emulsion; hence, that chemistry step is omitted. The Court also finds that while the Reynolds '463 patents mentions malic and lactic acids, it does not teach the use of either in a mixture for creating an emulsion. Therefore, the Court finds that it is more likely than not that a fact finder would find the method presented in the '943 patent nonobvious. *See KSR Int'l Co. v. Teleflex, Inc.*, 127 S.Ct. 1727, 1740 (2007).

The remaining prior art references cited by Nalco are also deficient, standing alone or in combination, to teach the method of the '943 patent. For example the Strong '243 patent teaches the use of carboxylic acid in an alcohol solution. The Hickok '123 patent focuses on the treatment of gasoline as opposed to crude oil. And, as well, it requires an oxidation step that is not included in the '943 patent. Likewise, the Naeger '210 patent teaches away from the '943 patent in that it teaches a method for the removal of impurities by the addition of amines to either the crude oil or wash water. It does not address the removal of metals and amines from crude oil.

In light of the fact that the Reynolds '463 patent, among other Reynolds patents, was before the PTO Examiner and was reviewed and rejected as relevant, without evidence of error or inequitable conduct, the Court presumes that the PTO properly performed its function. Certainly, the absence of evidence strengthens the presumption of the validity of the '943 patent. The Court finds that Nalco has not overcome the presumption of the validity of the '943 patent by clear and convincing evidence.

The Court finds that Baker Hughes is the owner of U.S. Patent No. 7,797,943 and has the authority and right to enforce it. Enforcing a valid patent is of vital importance to the welfare and health of patent industry. In this regard, the Court finds that it is in the public interest to enforce patents and thereby encourage the public to utilize the patent system. Hence, the issuance of an injunction would not be a disservice to the public.

*C. Success on the Merits*

The Court is also of the opinion and finds that Baker Hughes has demonstrated a likelihood of success on the merits. The '943 patent describes a method for cleaning crude oil of high levels of calcium during the desalting process in a refinery. The Nalco method for cleaning crude oil, in the Court's opinion, copies the Baker Hughes method in that it injects malic acid into the wash water stream lowering the pH of the wash water from 7.30 to below 3.30 to form an emulsion in order that the calcium is transferred from the crude oil stream to the water stream. Upstream, Nalco adds a corrosion inhibitor which addition does not enable the chemistry method. The Court finds that Nalco is conducting this method at the Sunoco Refinery where Baker Hughes introduced and practiced the '943 patent method starting in 2004. Hence, the Court finds that Nalco has copied the Baker Hughes method and is practicing each step of the claimed method

particularly claims 1 and 17 of the '943 patent. Therefore, the Court concludes that it is more likely than not that Baker Hughes will prevail on the merits of its case at trial.

*D. The Balance of Hardships*

Quoting from *Litton Sys., Inc. v. Sundstrand Corp.*, Nalco proffers the following: "[a]n injunction should not be granted if its impact on the enjoined party would be more severe than the injury the moving party would suffer if it [were] not granted." 750 F.2d 952, 959 (Fed. Cir. 1984). Beyond the quote, Nalco's evidentiary proffer is short on establishing a hardship claim. The evidence shows that Nalco's has not sold its technology to any vendor in the crude oil industry. Both Baker Hughes and Nalco are seeking to market the method to the Sunoco Refinery with the view that an award opens a new market for the prevailing bidder. Clearly, a party that owns a patent that covers the process has more to lose than its non-patented competitor. The Court finds that Nalco owns no invention that covers the method practiced. Hence, Nalco would not be "put out" of any market or business nor denied the practice of any process that it owns were it not permitted to practice the Baker Hughes method. Therefore, the Court concludes that considering the balance of hardships, the hardship element favors Baker Hughes. *See Bell & Howell Document Mgmt. Prods. Co. v. Altek Systems*, 132 F.3d 701, 708 (Fed. Cir. 1997).

**VI. CONCLUSION**

The Court has reviewed the evidence and considered the testimony offered by the parties in reaching the conclusion that a preliminary injunction should issue in this case. In addition, the Court's finds from the evidence and the order of events that an inference of copying on the part of Nalco has been raised. There is also compelling evidence that

the Nalco's '403 patent (U.S. 7,399,403) does not successfully remove calcium and metal from crude oil. The '403 patent introduces a process for removing calcium and metal contaminants through the use of malaic acid. There is no mention of maleic acid in Nalco's '403 patent. Nor is there evidence that Nalco's method included malic prior to 2009. Moreover, there is no evidence that Nalco has enjoyed a commercial successful application of its '403 patent in the United States.

Because the Court is persuaded that Baker Hughes has satisfied its burden of showing that the issuance of an injunction is appropriate, while Nalco has failed to raise any reason that justifies a delay in the issuing of an injunction, Baker Hughes' motion for a preliminary injunction is GRANTED.

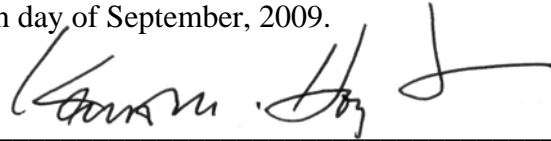
It is so ORDERED that Nalco is enjoined from practicing any method for cleaning crude oil using the desalting process in a refinery in the United States that: a) adds an effective amount of a composition to the wash water of a refinery desalting process to transfer metals and/or amines from a crude oil phase or stream to a water phase or stream comprising at least one water-soluble hydroxyacid selected from the group consisting of glycolic acid, gluconic acid, C<sub>2</sub>-C<sub>4</sub> alpha-hydroxy acids, malic acid, lactic acid, poly-hydroxy carboxylic acids, thioglycolic acid, chloroacetic acid, polymeric forms of the above hydroxyacids, poly-glycolic esters, glycolate ethers, and ammonium salt and alkali metal salts of these hydroxyacids, and mixtures thereof, b) where the pH of the wash water stream is lowered to below a pH of 6, c) where the addition of the wash water stream to the crude oil stream forms an emulsion, and d) where the emulsion is then resolved or demulsified into a crude oil and water streams using electrostatic

coalescence, where at least a portion of the metals and/or amines are transferred to the water stream.

It is further ORDERED that Nalco is enjoined from aiding and abetting, inducing or contributing to, the infringement of the method(s) claimed by the '943 patent by another, who infringes by performing any or all of the steps claimed in the '943 patent and specifically from performing or assisting in the performance of the Baker Patented Method, or selling or offering to sell a chemical composition claimed in the '943 patent, including, but not limited to, malic acid, for the purpose of performing the method(s) claimed by claims 1 and 17 of the '943 patent;

Finally, IT IS FURTHER ORDERED that a Preliminary Injunction shall issue only upon Baker Hughes posting of a bond in the amount of \$100,000.

SIGNED at Houston, Texas this 11th day of September, 2009.

A handwritten signature in dark ink, appearing to read "Kenneth M. Hoyt", written over a horizontal line.

Kenneth M. Hoyt  
United States District Judge